



# A STUDY OF THE EFFECT OF ATTRIBUTION ON SELF EFFICACY ABOUT COGNITIVE TASK

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## ABSTRACT

The effect of outcome and type of attribution on self-efficacy was investigated in an experiment involving cognitive task. The participants (20 males and 20 females) were put to pre-test (before performance feedback and attribution) and post-test (after receiving performance feedback and attribution). The study involved a 2X2 factorial design with two type of outcome (success/failure) and two types of attribution (ability/effort) with 10 subjects (5 males and 5 females) in each cell. The results of the experiment revealed that the subjects widely differed in their judgments of self efficacy under pre-test and post-test conditions. It was found that success outcome had influenced the self-percepts of efficacy. The nature of attributions also showed influenced on these judgments. The group did not differ in terms of actual performance on the given task.

**KEYWORDS:** Self-efficacy, Cognition, Cognitive Task.

## INTRODUCTION:

Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977<sup>1</sup>, 1981<sup>2</sup>, 1982<sup>3</sup>, 1997<sup>4</sup>). The people who believe in their efficacy are able to visualize their successes positively and it enables them to open up all the roads to reach their goals. Self efficacy is like a hidden power that has a huge potential to help people by giving them a belief system using which one can transform all their life events. Self efficacy is the belief in one's ability to influence events that affects one's life and control over the way these events are experienced.

Recent studies indicate that perceived self efficacy can have diverse consequences for behaviour, thought patterns and effective arousal. The behavioural effects take several different forms. Self percepts of efficacy influence choice of activity and environmental settings. People tend to avoid situations they believe exceed their capabilities, but they undertake and perform with assurance activities, they judge themselves capable of handling (Bandura, 1977 a). Any factor that helps to determine choice behaviour can exert significant effect on the course of personal development. Active engagement in activities contributes to the growth of competencies. Shunning enriching activities and environment, retard development of potentialities and shields negative self percepts from direct change. Self efficacy also determines how much effort one will expand and how long he or she will persist in the face of obstacles. The stronger the perceived self-efficacy the more vigorous and persistent would be the effort.

People's perceptions of their own capabilities also influence their thought processes and emotional reactions during anticipatory in actual transactions with their environment. Those who judge themselves inefficacious in coping with environmental demands tend to engage in frequent self appraisals of inadequacy and cognise potential difficulties as more formidable than they really are. Such self-referent preoccupation produces disruptive arousal and impairs performance by diverting attention from the task at hand to self evaluative concerns (Beck 1976, Meichenbaum 1977<sup>5</sup>, Sarasan 1975a<sup>6</sup>). By contrast, people who have a strong sense of efficacy deploy their skills well to the demands of the situation and are spurred by obstacles to greater effort.

## Sources of self-efficacy:

- (i) **Mastery Experiences:** This brings you to have a firsthand experience to achieve a goal by yourself, be it as small as cleaning your room. These small wins make an individual believe that he/she can get things done and strengthens their belief in oneself.
- (ii) **Vicarious Experiences:** People do not rely on enactive experience as the primary and only source of information about their capabilities. Efficacy appraisals are partly influenced by vicarious experiences also. Seeing other persons perform successfully can raise efficacy expectations in observers that they too possess the capabilities to master comparable activities (Bandura et al 1977). They persuade themselves that if others can do it, they should also be able to achieve at least some improvement in performance. By the same token, observing others perceived to be of similar competence fail despite high effort lowers observers' judgments of their own capabilities (Brown & Inouye 1978<sup>9</sup>).
- (iii) **Verbal Persuasion:** We possess certain capabilities and can do things

beyond our imagination if we surround ourselves with the like-minded people or people who impact us positively. Self efficacy is greatly influenced by encouragement and discouragement that an individual receives based on their performance or their ability to perform.

- (iv) **States of physiology:** The information communicated by physiological arousal influences efficacy through judgmental processes. A number of factors such as appraisal of the sources of arousal, the level of activation, the specific situations under which arousal is felt and past experiences on how arousal affects one's performances are important mediators of cognitive processing of these information. The self efficacy implications of arousal derive from past experiences.

In forming their efficacy judgments, however, people integrate efficacy information from these diverse sources. There has been little research on how people process multidimensional efficacy. Studies of judgmental processes show that people have difficulty weighting and integrating multidimensional information (Slovic, Fischhoff & Lichtenstein, 1977<sup>7</sup>, Slovic & Lichtenstein, 1971<sup>8</sup>) and, therefore, tend to rely on simple judgmental rules.

According to a study of self efficacy, satisfaction and academic achievement whilst the mediator role of students' expectancy-value beliefs by Fernando Domenech Betoret (2017)<sup>10</sup>, it was found that students' expectancy value beliefs (process expectancy, subject value, achievement expectancy, cost expectancy) played a mediator role between academic self efficacy and the achievement/satisfaction relationship.

## MATERIALS AND METHODS:

The present experiment was designed to investigate the effect of performance attribution on self efficacy on a cognitive task. In view of the fact that the nature of task demand makes a qualitative difference in initiating the activity and level of processing it appeared reasonable to examine the variation in perceived self efficacy judgments in a task involving recall and reorganization of past experiences. This experiment, therefore attempted to examine the effects of outcome and type of attribution on self efficacy judgments about cognitive task.

It had a 2x2 factorial design with 2 types of outcome (success/failure) and 2 types of attribution (effort/ability). There were 10 subjects in each cell of the design. A sample of 40 tribal students (20 males and 20 females, mean age= 23.80 years) drawn from tribal hostels at Bhopal participated in the study. They came largely from lower middle class socio economic background. All these participants belonged to the Bastar region of Chhattisgarh. These subjects were randomly assigned to the four experimental conditions of the design.

The cognitive task was based on a test developed by Educational Testing Service (1975). It consisted of a questionnaire devised to test how many ideas the subject could think of about a particular topic. They could use phrases to express each idea. The participants were given a sample topic, "A train journey". Five minutes were allocated for both the tasks of this measure. The 2 topics selected for the final measure were- (i) A man going up a ladder; (ii) A man crossing a stream

## RESULTS:

The self efficacy judgment of subjects under pre-test and post-test conditions is

reported in table 1. The subjects widely differed in their judgments under the pre-test and post-test conditions. The obtained scores on the measure of self efficacy judgments ranged from 10% to 100%.

**Table 1: Percent frequency of subjects showing gain, loss and no change in self efficacy judgments**

Conditions	Gain	Loss	No Change
Success Ability	50	10	40
Failure Ability	10	70	20
Success Effort	40	30	30
Failure Effort	00	100	00

**Table 2: Mean and standard deviations of self efficacy scores on cognitive task**

Attribution		Outcome			
		Success		Failure	
		Mean	SD	Mean	SD
Effort	Pre test	37.00	11.59	49.00	19.35
	Post test	34.00	15.25	18.00	14.23
Ability	Pre test	64.00	15.28	58.00	11.73
	Post test	70.00	10.80	41.60	12.23

**Table 3: Mean and standard deviations of difference scores on the measure of self-efficacy**

Attribution	Outcome			
	Success		Failure	
	Mean	SD	Mean	SD
Effort	62	17.82	61	8.36
Ability	55	28.41	57.60	17.67

**Table 4: Summary of 2x2 factorial analysis of variance on difference scores on the measure of self efficacy**

Sources of Variation	Df	Ms	F
Outcome	1	6.4	.0108
Attribution	1	270.4	.456
Interaction	1	32.4	.5
Within cell	36	592	

## DISCUSSION:

The results of the present study reveal that the perception of capabilities of an individual in itself is a critical factor in determining performances. Several environmental factors and personal experiences about individual performance shape the judgement of self-efficacy bracket. Further outcome feedback in forms the individual that his or her performance is showing high or low competence in a given task such information are utilised in the process of formulating their self-efficacy. Success or failure has generally been found to be related to increment or decrement in self-efficacy judgement. This study in addition indicates that individual differences and past experiences shape the judgements about self-efficacy.

The self-efficacy judgement in relation to performance on a complex cognitive task reveals important line of findings that is gain loss and no change influence due to outcome feedback. Individual level analysis of data shows a positive effect of success and negative effect of failure. It seems that the experience of outcome interacts with individual expectancies and that people moderate their outcome expectancies in the line of outcome experience because outcomes are indicators of feasibility or boundary conditions and provide picture of possibilities.

While assessing the effect of attribution, four treatment conditions emerged out with the combination of outcome and type of attribution namely success-effort, success-ability failure (lack of effort), and effort-failure (lack of ability). It was found that the effect of attribution was low on the given task. The results further showed that effort attribution were more damaging than ability attribution under failure conditions. In addition relatively greater deterioration under failure lack of effort condition was observed than failure lack of ability conditions and the difference between effort and ability attributions under success condition did not show much difference.

No significant effect of attribution could be seen in the present study. However, results seem to indicate that effort attribution is important for complex failure. Further, the present study does not provide any idea about the way various infor-

mation is integrated by the individuals, in forming and moderating self-efficacy judgements. But it can be speculated that outcome feedback provides information about the level of performance while attribution provides interpretations of the individual performance linkage. Thus, the self-efficacy judgement appears to be consequence of cognitive as well as motivational processes.

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